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ABSTRACT

Summaries of conference discussions on state funding of public higher education are presented. Attention is directed to the practice and the context of state funding. The following topics are addressed: current state priorities and relationships between state government and publicly-supported institutions, funding for quality, incentives in the budget, management flexibility, higher education costs, funding formulas, and research agenda. Specific issues addressed by conference participants include the following: changes in the means for ensuring accountability, the importance of trust in the state-institutional relationship, the degree of concern about quality in higher education, the kind of budget provisions that are likely to enhance quality, the way that incentives relate to state policies, the proper distribution between the state and the institutions of the responsibility for managing institutional budgets, leadership and flexibility, problems inherent in basing tuition rates on the costs of instruction, the role of marginal costing in the higher education funding, recent improvements in funding formulas, and progress in costing studies. A list of 42 finance-related issues that need further investigation is appended. (SW)

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State Funding of Public Higher Education: Improving the Practice

Working Paper Series

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State Funding of Public Higher Education: Improving the Practice

Proceedings of a working conference
August 18-19, 1983—Boulder, Colorado

Paul T. Brinkman
1984

National Center for Higher Education Management Systems
P.O. Drawer P Boulder, Colorado 80302
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Foreword

The practice of state funding of public higher education continues to evolve. It would be surprising if it were otherwise, given the political, economic, social, and demographic changes going on around it. This document reports on a two-day discussion of the practice and its context. The framework for the discussion was provided by some of the fashionable topics of the day such as quality, incentives, and management flexibility, and by some old favorites, costing and formula funding, that take on new light as conditions change. The intent of the discussion was to assess the nature of recent changes in practice and process, to review the findings and thinking stemming from current research projects on the issues in question, to provide practitioners and theorists a chance to compare notes, and to set out an agenda for further study and research.

The idea for the conference originated in the context of a project at the National Center for Higher Education Management Systems (NCHEMS) called "retrenchment and reallocation." This project, which is funded by the National Institute of Education (NIE), has been under way for several years. It has had as its focus several (more or less technical) issues related to formula funding and costing. In particular, new formula approaches for responding to enrollment change, marginal-costing techniques, and aspects of statistical cost estimation have been investigated. A general framework piece on state funding of public higher education has also been developed as part of the project. Within this context, it was appropriate to bring together a group of knowledgeable people to discuss project-related issues from a variety of perspectives, but especially those of practitioners from both the state and institutional levels. Such a discussion would help to focus the continued

development of the project, and it would also constitute a forum for the exchange of ideas which itself was a project objective.

In planning for the discussion, or working conference, it soon became evident that an opportunity existed to bring several research threads together. The Southern Regional Education Board was just concluding a descriptive study of management flexibility at public colleges and universities. A project on quality-related issues, sponsored by the Fund for the Improvement of Postsecondary Education (FIPSE), was being conducted by the Vanderbilt Education Policy Center, and another FIPSE-sponsored project, on incentives in state funding mechanisms, was being conducted jointly by the National Association of College and University Business Officers and the Education Commission of the States. The interrelationships became obvious in early planning sessions, and the conference agenda was recast to highlight these themes along with those more directly related to the NCHEMS research and development effort.

In selecting participants for the conference, an attempt was made to achieve some balance between state-level and institutional representatives, and between practitioners and researchers. A reasonable distribution by region of the country was also an objective. As the list of participants shows, these ends were achieved for the most part given the limitations of the funding and the intent to keep the group small in order to facilitate discussion.

The conference did not include formal presentations. Moderators and specific topics were assigned for each of seven discussion sessions over the two-day period. The topics and moderators were as follows: priorities and relationships (Dennis Jones); funding for quality (John Folger); incentives in the budget (Richard Allen); management flexibility (James Mingle); costs in

higher education (J. Michael Mullen); funding formulas (William Pickens); and research agenda (Paul Brinkman).

In the commentary that follows, an attempt has been made both to capture the gist of each of the sessions and to include a fair amount of detail where appropriate. Various practices and developments are noted, as are trends that seem to be developing. Occasionally a particular development will be ascribed to a particular state, but much more weight has been given to the appraisal side, to what the participants thought was worth being concerned about or worth doing, in terms of either implementation or research. Most of the participants responded in writing to a set of questions as preparation for the conference. Those responses are integrated at appropriate points in the commentary on the sessions. Obviously, some bias will be present in any summary of the sort intended here, however good one's intentions. The author apologizes for any misinterpretations that may be present.

Thanks are due to the moderators listed above, and to those who helped in planning the conference--Richard Allen, John Folger, J. Michael Mullen, Gordon Van de Water, and Dennis Jones. Special thanks go to Paula Dressler who handled the logistics for the conference and who typed these proceedings. NCHEMS hosted the conference, NIE provided most of the funding, and FIPSE helped defray some of the travel expenses.

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A Working Conference
on
State Funding of Public Higher Education: Improving the Practice

Boulder, Colorado - August 18 and 19, 1983

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1. Priorities and Relationships

Particular funding mechanisms, strategies, and tactics differ from state to state, partly due to historical accident, and partly due to underlying differences in the fundamental context within which state governments and public institutions of higher education interact. The conference began with a discussion of two important features of that context: state priorities for higher education, and the basic relationship between state government and publically supported colleges and universities. Specific issues addressed by the participants included the following: current state priorities, changes in the relationship between the state and its institutions, the problem of congruence of behavioral expectations, changes in the means for ensuring accountability, and the importance of trust in the state-institutional relationship.

In a rational world, state government might be expected to have a set of explicit goals and priorities for public higher education. The discussion around the issue revealed that states vary considerably in the extent to which such goals and priorities are made explicit. Their primary mode of expression is often in the budget that is passed. While a few participants argued that what the budget reflects is no more than a temporary consensus among contending parties, rather than the influence of long-term goals, most participants were, in fact, able to indicate one or more general goals or priorities, such as "access", that had played a role in the development of higher education in their respective states. A corollary issue, the potential role of higher education as a "check and balance" vis-a-vis the political forces of the moment, was also briefly discussed. The state's agenda for public higher

education, even if it could be spelled out precisely, might not be all, or even the most important part, of the agendas of public institutions.

The participants were asked to indicate the state policy objectives and priorities that underly the budget for public higher education in their state. They responded as follows:

- Access for in-state students; efficiency and internal assessment.
- Equity in budget share among institutions. Equity is coming under pressure due to increasing interest in industrial development and quality, which can enhance the budget prospects for some institutions at the expense of others.
- Maximum access, quality, and programmatic diversity; but resource shortages are creating problems in achieving these objectives at previous levels.
- Shifting from geographical access and institutional support to program quality, choice, and consumer financing; coordination with the needs of the business and technical sectors; more direct assistance to state economy.
- Very pragmatic philosophy: small increases, even freezes, when times are hard; fairly substantial increases when times are good.
- Meet the continuing costs of higher education and make a limited number of incremental improvements as revenues become available.
- Nothing consistent is discernable other than the equitable distribution of funds among institutions.

- Access to higher education and reasonable freedom of choice between institutions and programs; recently, support for programs such as engineering, business, and computer science has become an important concern.

- Enable each institution to carry out its mission; quality programs, equity of funding among institutions, access for qualified individuals.

- Open access and maintenance/improvement of quality; access now being limited to preserve quality.

- Improve quality of instruction and maintain excellence; increased efficiency, productivity, and independence from general fund support; restrict rate of growth in expenditures.

The participants looked carefully at the arrangements in one state, Colorado, where the public institutions have recently been accorded more autonomy; they are now more "state-related" and less "state-controlled". The pros and cons of the arrangement were debated. Most participants seemed to favor the increased institutional autonomy that is the keystone of the new relationship. Yet there was a strong note to the effect that too much of a good thing was possible. As one participant put it, the state ought not to "take a walk" on higher education. The concern over institutions becoming too autonomous was focused on the issue of tuition rates. If the establishment of those rates becomes the sole province of the individual institutions, then the state loses direct control over an important means of ensuring access unless it provides more student aid. Net tuition is the real test with respect to access; the state has the option of countering high tuition rates with increased student financial aid as a means of maintaining a particular level of access. Even if

the state were willing to grant institutions that degree of freedom in raising their own resources, other problems remain. The participants noted that competition among the institutions in a state might be exacerbated. The prestigious institutions could charge a much higher tuition rate than the less prestigious institutions, and still maintain enrollments. In short, the concern was that the rich would get richer, and the poor poorer, in the face of little or no centralized control over tuition rates. Another way of putting it is that the programs the customers (students) thought were best would succeed, and the ones they didn't like would fail. It entails a belief that the students know what is good for them, and that the market is a more effective regulator than are state officials.

Another sort of problem that may arise when higher education institutions have state-related status, as opposed, for instance, to state-agency status, is a breakdown in the congruence of expectations between the state and its institutions. For example, a kind of political model (in the sense of a set of behaviors and expectations) is predominant in most states. When times are good financially, everyone shares in the abundant resources. When times are bad, everyone gets their fair share of the smaller pie. If the educational institutions are operating instead with a kind of market or profit model, the prospects are good for a clash of expectations. For example, suppose a state finds itself with both a revenue shortfall and a public university system that has sizable financial reserves. Either the state's expectation of sharing the burden of hard times will suffer, or the institution's expectation of being able to profit from prudent management will suffer--depending on whether the state decides to lay claim to the institutional reserves.

Sustained movement along the continuum from state-agency to state-related status for public colleges and universities will require considerable confidence in higher education on the part of state government. State control over higher education will always be present, if only in limited form, no matter what the formal status of the relationship. So long as institutional behavior is within the boundaries of reasonableness, as defined by government officials and perhaps the public at large, rather loose forms of control are possible. Under loose forms of control, accountability will still be an issue--and may even be given added emphasis because of the push for quality--but it will tend toward performance reviews, post-audit reviews, and outcomes analysis, rather than regulations and pre-expenditure controls.

II. Funding for Quality

Maintaining or, perhaps, recapturing quality in education has been much on the mind of the American public. While the public has been particularly concerned about the situation in primary and secondary schools (K-12), there have been issues, such as declining SAT scores, open admissions policies, and college graduates who lack basic skills, that have generated concern about higher education as well. The conference participants dealt with a variety of issues related to quality, but concentrated their attention on four areas: the degree of concern about quality in higher education; the interaction between the concern about quality at the K-12 level and concern at the collegiate level; the prospects for increased accountability (perhaps even a backlash) that might accompany increased attention on, and funding for, quality; and the kind of budget provisions that are likely to enhance quality.

In most of the states represented at the conference, interest in the quality of higher education was substantial, and often growing. In a few states, the interest was narrow, focusing on particular programs such as engineering and teacher training. The reasons for interest in quality were varied, but chief among them were the perceived connection between quality and economic development, the national reports on education, and the efforts of blue ribbon committees and higher education boards. Surprisingly little of the concern about quality was thought to have been generated by the higher education community itself. The following comments illustrate that despite a general increase in the concern over quality, there remains a considerable range in the awareness and response of state leaders:

- There has been a growing concern about quality . . . but it has not been translated into significant funding increases beyond establishing a special fund for recruiting faculty and providing a modest number of merit-based state scholarships.

- To date there has been no practical interest by state political leaders . . . the governor has made a number of statements but has made no specific proposals. The interest is general, not specific.

- Interest in quality is fairly strong and growing . . . triggered in part by economic development and a need to find new justification for budget increases given stable or declining enrollments.

- Concern over access still eclipses the debate over quality, except for engineering and computer science where concern for the state's ability to offer quality programs is substantial.

- The political leadership is individually very concerned about quality, always has been, and takes pride in that concern, but they have no clear idea what quality is. Public discussion of quality is inhibited by political sensitivity to geographical and union interests.

- Concern about quality is fairly high, probably due to national events and reports.

- Not as much concern as in K-12, except for teacher education programs.

- Quality is a major concern, due in part to the budgetary concerns expressed by higher education and national events and reporting.

- Very high level of interest in quality, fostered in part by a high level of public discussion.

- State leaders' interest in quality is high, encouraged by a strong stand on the part of regents, commissioners for higher education, and some institutional presidents.

- Quality of education is a major priority for this administration. The emphasis on elementary and secondary education is beginning to have an effect on higher education.

Considerable uncertainty was expressed about whether the quality issue in K-12 would spill over into higher education. A concrete problem in this context is what to do about remedial education. States are following different patterns--some are incorporating remedial work throughout their higher education systems, some are relegating it to community colleges, some are imposing output controls on secondary education (in the form of competency examinations), and some states have not yet decided exactly what to do. There

was less uncertainty among the participants, although still not total agreement, that K-12 and higher education are in a trade-off situation when it comes to state funding. There is some conceptual support for this phenomenon, in that it follows from a political model (the "fair shares" notion essentially) of the funding process. Some empirical studies at the national and state level also support the trade-off concept. Most of the discussants were not optimistic about higher education's current chances to secure a bigger share of state funding, compared to K-12 education, in view of the latter's superior political base. It was even suggested that higher education might have to "pay" for quality enhancement in the primary and secondary schools.

There is a good chance, it was agreed, that the increase in concern about quality in higher education will bring with it an increase in accountability. Increased funding directed toward improvement in quality is being sought, and obtained, in a number of states. Several participants expressed concern about a possible backlash if it is perceived that the funding has little impact. Implicit in this concern, perhaps, was the suggestion that the rhetoric on quality had best be kept under control. A related matter that also has the potential for generating political controversy is the possibility of having to choose between quality and access. Clearly, access is already coming under pressure in some states. Some state governments are likely to want to "download", as one participant put it, this type of tough decision to the higher education community itself.

Participants were asked, "What sort of budget provisions are likely to enhance quality?" A summary selection of their comments follows:

- Removal of disincentives in policies and budgetary arrangements.
- Focus on programmatic issues; program review leads to budget issues; then a flexible budgetary process is needed to respond to these budget issues.
- Develop operational definitions (measures) of quality; must translate public relations slogans to programmatic basis; either the state or the institutions may provide the definitions as long as they are acceptable to both.
- A strict (and most difficult) connection to performance; accountability related to performance not process.
- Value added provisions.
- Adequate funding of basic mission plus targeted funding.
- Allow institutions to supplement support of their programs without risk of losing state support.
- Competitive bonuses; salary supplements via endowed faculty positions.

III. Incentives in the Budget

All funding mechanisms contain both explicit and implicit incentives. No matter what the funding procedure (and the policies within which it is embedded), institutions will find that some behavior is rewarded and some is not--relative, of course, to an institution's particular goals and objectives. The participants focused on how incentives relate to state policies, on the extent to which explicit incentives should be built into the funding mechanism,

and on alternative means for accomplishing state objectives. The system of incentives currently being used in Tennessee was reviewed in some detail.

One way of envisioning the relationship between state priorities and incentives for institutional behavior is a rationalist scenario in which, one, the state government has a clear sense of what its priorities are, and, two, it deliberately and purposefully builds them into the funding mechanism. Two sets of questions might be asked about this scenario. First, does it describe reality? Is this how things typically happen? Is there any evidence of a trend toward this type of approach? Second, would this approach be desirable? Are there any disadvantages for higher education, or for the public good?

As the participants had noted in an earlier session, only a few states have well defined and articulated goals and objectives for public higher education. Most states have implicit priorities and general goals. The priorities appear to evolve out of the funding situation as much as they shape it. Furthermore, the rationalist approach assumes that the link, or means-end relationship, between a goal and the mechanisms to achieve it is always sufficiently well understood to make the system work. If this were generally true government intervention typically would be more effective than it actually is. The difficulty of implementing objectives in complex, loosely coupled organizations shuld not be underestimated. There is also an assumption present that the incentives contained in the funding mechanism will somehow be obvious at the start. Yet experience has shown time and again that states can be somewhat surprised by what transpires, and that hindsight reveals much that perhaps could have been, but was not, seen at the beginning. How many legislators, for example, foresaw that enrollment driven funding formulas which were designed to <u>accommodate</u> growth actually <u>promoted</u> growth? Finally, as one participant

noted, even in hindsight it is often difficult to unravel the complex interactions among incentives.

While the rational model in its pure form may be unrealistic, the participants did spend considerable time in reviewing examples of instances in which state priorities for higher education are being deliberately worked toward (and achieved in some instances) through funding incentives. Many of the incentives relate to the goal of controlling enrollment growth, or shifting the composition of enrollment, or changing the distribution of enrollment within a state. States are also using funding incentives to enhance performance levels, raise admissions standards, and achieve savings and redirection of resources (for example, by allowing institutions to roll over funds from one year to the next). The participants with direct experience in implementing such incentives emphasized that the relationships involved are generally more complicated than they appear to be at first glance, and that states should embark on explicit incentive programs only if they are willing to "work at it"--particularly in areas where measurement is inherently difficult.

Given that a state's funding mechanism will of necessity contain some incentives, it does not follow necessarily that a state should view the funding mechanism as a primary vehicle for directing institutional behavior. The participants came up with a number of potential problems in depending too heavily on financial incentives:

- Explicit incentives can be difficult to work with in a political system that typically depends on a certain amount of vagueness for reaching agreement and acceptance.

- Incentives do not always send clear signals.

- Incentives can increase costs as well as benefits; not enough attention may be paid to the cost of bringing about certain behaviors or levels of performance.

- It is difficult to reach consensus on the best approach.

- Extensive use of incentives may entail some loss of institutional autonomy, and further increase centralization of authority.

- The same incentive will affect different institutions differently, making implementation more complicated.

- It may be complicated to provide incentives fairly.

- There is a danger that institutions will overreact to the incentives, and there may be unanticipated side effects (these potential problems tend to worsen as the implementation of the incentives becomes more mechanistic).

- Any positive effects could be diluted if the incentives were to be accompanied by cumbersome monitoring and regulations.

- Incentives are often rather blunt instruments to achieve a particular goal or objective.

Despite these problems, several of the participants saw the use of explicit incentives as an opportunity to encourage better management and better performance, assuming that the objectives can be reasonably well specified. As a means of improving performance, it was argued, the use of incentives would often be preferable to the use of regulations. The latter have not been particularly effective thus far. Standards, such as those for competency

examinations, often must be set too low to be of much value if they are to be acceptable politically. In any case, there was general agreement among the participants regarding the high utility of at least removing disincentives with respect to state priorities.

IV. Management Flexibility

The degree of autonomy that might properly be granted to public colleges and universities, a question of long-standing across the country, was addressed in fairly general terms in the opening session of the conference. In this subsequent session, the focus on institutional autonomy was narrowed to that of management flexibility in relation to institutional budgets. The issues that received the most attention in the discussion were as follows: In general terms, the proper distribution between the state and the institutions of the responsibility for managing institutional budgets; variations in state control over positions; the effects of greater management flexibility on governing boards; leadership and flexibility; trickle-down effects; and possible resistance to greater flexibility on the part of some institutional managers.

Management flexibility with respect to the budget can be thought of in two senses: one, developmental flexibility, relating to how the budget is originally built, and, two, procedural flexibility, relating to how money is spent. Much of the discussion on what the basic state-institution relationship should be had to do with procedural flexibility. On this matter, there was general agreement among the participants that the primary state role should be to establish clear guidelines for accountability, and that the accountability should be implemented in a post-audit rather than a pre-expenditure manner. The management of the budget should be left to the institutions. Some of their individual comments to that effect are as follows:

- The state should perform or be provided with an audit sufficient to ensure honesty, conformance with fiduciary responsibilities, and a proper observance of public policy. Otherwise all management authority should reside in the institutions.

- If management is defined as the day-to-day operations once the overall budget has been determined, management--including most personnel decisions--should rest exclusively with the institutions.

- Once the budget is enacted, institutions should be free to manage the funds as they see fit, consistent with proper fiscal and management practices.

- Managing a budget is totally an institutional responsibility; the only legitimate state role is post-audit.

- Institutions should have operational autonomy and reasonable budget flexibility, with fiduciary and performance accountability.

Two participants, after affirming the general tenor of the above remarks, added that budget policy should not be established in response to individual situations of mismanagement; otherwise the controls and procedures that are instituted will punish both good and bad managers.

With respect to one particular issue in budget management, position-control, a wide range of state-institution relationships had been experienced by the participants. One state was described as having a fixation on position-control. In another state, the coordinating board neither knows nor cares how many higher education employees there are. In yet another case, the state exercises control indirectly by setting guidelines for salaries as a

percent of total expenditures. What effects have accompanied these alternative approaches? One state has found that rigorous position control does not necessarily translate into saving money--if instituitons may contract for services, and so on. States with little position-control have variously experienced "position creep", "position gallup", shortages of support monies because of high salaries, and a concentration of monies in the wrong place (in new faculty) when times get tough.

When a state decides to make a much greater degree of management flexibility available to its institutions than they have been accustomed to, responses are likely to vary considerably among institutions and elements thereof. Some institutions will make the most of the opportunity. Others will react more conservatively. Much depends on the governing boards and their willingness to accept greater responsibility. For boards that may have viewed their previous role as being essentially honorary and pro forma rather than management-oriented, the additional burden can be substantial. This is especially true if the new flexibility extends into the budget development area (for example, setting tuition rates).

Similarly, institutional leadership in the top administrative positions is crucial for capitalizing on budget management flexibility. They have the responsibility for overcoming a natural inertia to do business as usual. In the latter regard, several participants commented on the resistance to increased budget flexibility that may come from middle managers. These managers tend to be relatively bureaucratic, and are likely to be comfortable with established procedures and with established relationships between themselves and their counterparts in state agencies. From their perspective, then, a set of state-level, pre-expenditure controls may not appear to be

particularly burdensome. It was noted, however, that from virtually any viewpoint in an institution, whether it be that of administration or of faculty, procedural controls are easier to take in an era of growth than in no-growth or declining situations.

There was some discussion of whether a new found management flexibility might tend to stop at the top level of institutional administration. The experience of one state that had recently experienced a great increase in flexibility suggests that there is a trickle-down effect over time. In other words, across successive budget cycles, management flexibility is being exercised at successively lower administrative levels. This experience was said to reflect the effects of both administrative policy and a learning-curve phenomenon.

Two of the participants reported that in their states, Minnesota and Kentucky, fundamental changes occurred during 1983 in the degree of management flexibility afforded public higher education. In both instances, the degree of flexibility was greatly enhanced. Small incremental changes toward greater flexibility were reported for Maryland and Virginia, and perhaps for Utah (in terms of legislative intent), while a slight shift toward less flexibility was reported for Texas.

In a summative comment near the end of the discussion, it was noted that the participants had been viewing management flexibility largely as a way of improving bureaucratic functioning. In so doing, the implicit assumption seemed to be that institution-wide benefits would likely accrue from increased flexibility. Yet, it was pointed out, faculty are not centrally involved in the bureaucratic processes in question. Thus, the degree of management flexibility probably has little effect on teaching and research, the basic higher-education activities. It was suggested that the essential similarity in

the manner in which those activities are carried out in both public and private universities--the latter enjoying a minimum of outside interference on their management practices--provided evidence substantiating that conclusion.

V. Costs in Higher Education

At first glance, the relationship between state funding of public higher education and the cost of providing that education is fairly obvious. A particular level of service costs a given amount. The state decides what portion of the cost it will subsidize, and the rest is paid for by students and their families, by gifts, grants, and contracts from various sources, and so on. While that straightforward view bears some semblance of the truth, it hides several complexities that stem from the nature of costs in higher education. In one form or another, these complexities were the subject of the discussion during this session. Specifically, the discussion focused on three topics: the problems inherent in basing tuition rates on the costs of instruction; the nature of costs and ramifications thereof for using costing as a management tool; and the role of marginal costing in the funding of public higher education.

There appears to be a growing trend to link tuition rates at public institutions to the cost of providing instructional services. Typically, the revenue to be obtained from tuition payments is established by taking a percentage of instructional costs. The tuition rate is then simply a function of tuition revenue required and estimated enrollment. In some states, the cost of instruction by level, or by program, or a combination of the two, is used as the basis for charging so-called differential tuition rates. What can be said about this practice?

To some participants, the practice seemed arbitrary at least in execution. On occasion, tuition revenue appears to be no more than a device to cover revenue shortfalls from other sources, which usually means that the student share will increase when the economy is poor. Other participants argued that educational services ought to be viewed as any other "good" for which the users must bear the cost. The state determines what the service is worth to it and appropriates funds accordingly. The remainder (minus contributions from other sources) is left to the student who also makes a determination of worth and then buys services accordingly. Provisions may be made, of course, to assist financially those students who cannot afford to pay for the services. In general, the argument went, this process is not any more arbitrary than the establishment of prices in other sectors of the economy.

One rejoinder was to emphasize the "softness" and complexities of cost data when those data are employed in determining tuition rates. A student normally uses not one, but many, services over a period of time. The "cost of service" logic seems to entail determining the cost of each and every service, and in each instance a decision must be made about the proper unit of analysis: for example, all educational and general functions, instruction only, instruction by department or program, the full cost of a course, the direct cost of a course, etc. But is there a sound, philosophical basis on which these decisions can be made? Furthermore, is it not true that allocating indirect costs as well as costs associated with jointly produced activities is difficult, messy, and always somewhat arbitrary?

In the end, there was little agreement as to the ultimate reasonableness of basing tuition on costs. The discussion also included commentary on other considerations relating to the establishment of tuition rates. Market and

social considerations (ability to pay in particular) were the prime topics. It was noted, for instance, that at one point the tuition rate for non-resident medical students in a particular state was set so high (on the basis of costs) that no such students enrolled. On the other hand, in another state tuition rates are determined as a percentage of per capita income (with some variation in the percentage by type of institution), a strategy which raises interesting questions about the level of institutional funding during periods of economic stagnation.

The nature of costs in higher education was discussed briefly. The lack of standard costs was seen by some participants as undercutting the value of cost data for management purposes; without standards, how can it be determined whether a cost is appropriate or not? Others suggested that so-called constructed costs might be a solution, although it was unclear how such data would solve the question of appropriateness unless they ultimately were based on standard costs or, equivalently, standard production relationships. Similarly, comparative costs can be a surrogate for standard costs only if one is willing to accept the behavior of some particular group of cost centers (institutions, colleges, departments, and so on) as normative. Of course, constructed costs and comparative costs may be useful in other ways than in determining the appropriateness of historical or projected costs; for instance, as proxies for resource utilization data of various kinds.

When asked about the role of costing in the budget process in their states, the participants' responses ranged from "virtually none" (California, Colorado) to "central" (Minnesota, Virginia) with a rather even distribution between those extremes. Some states seem to be getting less interested in costing (Tennessee, Kentucky), while others are getting more interested (Utah). Some

of the reported uses for costing in the budget process for funding public higher education included the following: calibrating formulas, providing a starting point for budget analysis, providing a basis for setting tuition rates, providing a basis for making equity adjustments among institutions or re-evaluating formulas, and providing direct input into the budget estimation process.

As with other aspects of costing, the participants found much to disagree about with respect to the role that marginal costs might play in the state funding process. Direct application in a funding formula of empirically derived marginal costs, for example, did not seem proper to some participants, yet the direct application of marginal cost principles are evident in some formulas (Indiana, for example, or the California approach to funding community college districts). The concept or principle involved, that the next unit of output (activity, service, etc.) may cost more or less than the last one has apparently found some acceptance. On occasion, this possibility is indirectly acknowledged by a state that elects to discount a formula in times of growth (i.e., appropriate less than the formula indicates), or to reduce funds on something other than an average cost basis for institutions with declining enrollments.

The point around which there was some agreement is that marginal costing in the sense of recognizing that unit costs are non-linear does have applicability for state funding of higher education. At the same time, marginal costing in the classic sense of empirical, econometric studies was thought to be something for researchers to engage in which may or may not have utility for some future budgeting process. Of course, as several participants noted, the real value of

any kind of cost data is difficult to judge apart from specific issues, questions, and political situations.

The participants thought it would be useful if more could be learned about the following cost-related issues:

- The relationship between demand and cost
- The cost of quality
- How to adjust for quality when comparing costs
- How to determine standard or normative or true costs
- The relationship between enrollment size and unit costs; economies of scale at all levels (e.g., programs, institutions)
- Minimum efficient institutional size
- The behavior of marginal costs, the relationship of fixed and variable costs, average and marginal costs
- The appropriate levels of detail for cost analysis when conducted at national, state, institutional, and departmental units of analysis
- Why costs among comparable institutions, departments, etc., can be so different
- Ways of relating costs to policy objectives
- Why the contribution of capital and technological investment to lowered costs is as limited as it seems to be.

VI. Funding Formulas

The widespread use of formulas for funding higher education is now in its fourth decade. About half of the states make use of formulas in some explicit fashion, and most of the others probably have some formula-like elements somewhere in the budget process. Formulas caught on in the post WWII era in higher education primarily as a means of dealing with the problem of equitable distribution of state monies across burgeoning systems of institutions, rapid enrollment growth, and a desire to build more objectivity into the budgeting process. The comments made during the conference regarding formulas suggest that the basic motives for formulas are still operative, although modified somewhat to reflect the changing environment within which higher education operates. The primary issues that were considered by the participants included the following: what formulas ought to be able to accomplish if they are to be legitimate and adequate devices for the budgeting process; ways in which formulas can be harmful; recent improvements in formulas or in their use; other changes, present and future, in formulas.

Several dimensions need to be examined in evaluating the role of a formula in a particular budgeting process. Legitimacy is one issue. One participant set out the following criteria to establish the legitimacy of a formula: the formula must appear to be reasonable, it must deal adequately with differences among institutions in role and scope, and it must provide for an equitable distribution of funds across institutions. Another dimension is the extent to which a formula is actually funded. There was some disagreement among the participants as to what meaning could be drawn from a situation in which a formula was perennially underfunded (i.e., the actual appropriations were less than the figures indicated by the formula). Some argued that it reflected on

the legitimacy of the formula itself, while others said that the formula might still be sound, but simply overmatched against environmental conditions such as a revenue shortfall or some sort of political downdraft. As one participant noted, the technical logic of a formula ought not to be confused with its political logic. There was agreement with the notion that one must look at more than the formula to tell how things are going in a particular state. In all states, part of the budget is funded outside of the formula. For example, while Texas is regarded as a formula state, fully one billion dollars of state support for higher education institutions is not included in the formula. Appropriations for agricultural stations and extension services are typical of the sort of thing that may be funded on an incremental basis.

When asked about ways in which formulas could be <u>helpful</u> in the budgeting process, the participants responded as follows:

- Help ensure equity in the distribution of available funds among systems and institutions.
- Promote regularity in the budget process; allow for routine calculations in areas where agreement is strong.
- Depoliticize some decisions; save legislative time.
- Identify needs.
- Objectively demonstrate underfunding.
- Put pressure on state officials to honor past commitments.
- Help identify policy variables; force some rigor regarding state funding policy; reflect state policy.

- Serve as a public relations tool.

Funding formulas can also be harmful in the budgeting process. According to the participants, formulas are likely to be harmful if they:

- remain unchanged or unexamined for a long time
- are seen as a prescription for the way money should be spent
- are used for budget control (i.e., become prescriptive on expenditures)
- reinforce conservative tendencies that occur during retrenchment
- bring about a leveling or homogenization among a state's institutions
- are totally enrollment driven
- become a lever for outside control over the institutions
- embody inappropriate incentives
- restrict innovation
- slow response time to changing circumstances.

Given the rather considerable potential to be helpful or harmful to the budgeting process, it is not surprising that efforts to improve formulas are ongoing in many states. One participant reported on a survey of 18 states in which none were giving up their formulas, but virtually all were attempting to make some improvements. The efforts range from minor tinkering to radical revision. Two of the states represented at the conference, Kentucky and Minnesota, clearly fall in the latter category. In Kentucky, the new formula moves away from a focus on incremental budgeting to a focus on differential

funding, that is, the new approach is much more cognizant of differences in institutional mission and responsibilities. In Minnesota, the shift is away from a combination of incrementalism plus student-faculty ratios to an average-cost funding method featuring twelve categories (by level and costliness) plus a buffering mechanism (the enrollment multiplier is lagged two years). In both instances, it was noted, the governing boards and administrations of the respective institutions have been given very extensive management flexibility--and the tough decision-making responsibilities that go with the increased flexibility.

Some of the other improvements, or at least changes, in formulas mentioned by participants include the following:

- Adapting to changing circumstances such as enrollment shifts.
- Adapting to changing state priorities such as an increased interest in quality.
- Adapting to changes in standards for funding levels as in the case where the value of a particular funding factor (for instance, average faculty salary) is pegged to the behavior of a set of comparison institutions.
- Closer approximation to general costs.
- Further equalization among institutions.
- Adding a factor to the formula such as recognizing the level of separately budgeted research being conducted on a campus.

- Adding complexity (for example, further disaggregating a discipline cost matrix).
- Including another area of activity such as campus security in the formula.
- Updating rates in accord with inflation.
- Adding specialized formulas.
- Buffering of small institutions from enrollment fluctuations and changes in the formula.

A related area of change has to do with formula use policies, rather than with formulas themselves. Some states have had to contend with conflicting formulas, or with a formula that has little backing from the parties involved. Thus improvements in some states are a matter of bringing people together to establish a single, acceptable formula. Several participants stressed the importance of the way in which formulas are actually used.

It was briefly noted that all of these changes, whether major or minor, usually are accompanied by considerable scrutiny on the part of institutional analysts. They want to know what the effects of each change will be on their respective institutions. It was suggested by one participant that institutions be appraised of all the prospective changes at once, because changes are often put together as a set containing various trade-offs.

In looking to the future, the participants saw few clear trends that could be expected to appear in all of the states that are currently using formulas. Clearly, adaptations of one kind or another will have to be made to compensate for changes in enrollment, prices, and state revenues. In many instances,

these changes will be on the order of minor adjustments or add-ons to the formula, since formulas, despite all the changes noted above, are essentially conservative. A number of participants saw increased use of "specialized" formulas, or targeted dollars, added onto the general formula (that is, the formula, or the part thereof, that funds the core elements of an institution's operations).

There was also some agreement that formulas were likely to become more complex. The additional complexity would likely consist of special formulas, formulas that include multiple funding factors, that is, separate approaches to each of several areas (for example, instruction, plant maintenance, and so on), greater differentiation by discipline and/or level of instruction, and additional types of cost data (for example, constructed costs).

At the same time, it was thought that greater simplicity was in the offing for some states, at least in those instances where there was a desire to enhance the management flexibility of the institutions. With that aim in mind, fairly simple formulas might be sufficient--assuming that some of the complexity in current formulas is the result of the state's interest in maintaining a high level of budget control. Perhaps the most certain thing one might say about the future is that states are likely to remain pragmatic and individualistic in their approach to the use of formulas, as they weave together various technical and political considerations.

VII. Research Agenda

The concluding session of the conference was devoted primarily to developing a list of funding issues that needed further investigation and analysis. The session began with a sketch of where two pertinent FIPSE projects, one on

quality and one on incentives, were headed in the near term. It was reported that the two projects were to be merged, and that by early 1984 they would yield a catalog of quality-related initiatives that have been taken in various states. The document will also contain an assessment of the effectiveness of the initiatives, the names of contact persons, and a conceptual framework within which to think about the various changes and strategies that are uncovered. Various other means for the dissemination of project findings are also being considered.

The discussion of possible items for a research agenda ranged widely, reflecting the background and interests of the participants. The initial focus was on costing, followed by a long series of issues and problems that seemed to call for some sort of evaluative research.

With respect to costing, interest was again expressed in the development of standard costs, particularly as they would relate to comparative costs among disciplines and departments. It was suggested that useful progress in costing studies would more likely occur at the departmental or disciplinary level than at the institutional level, given the difficulty of knowing what is actually going on in terms of costs at large, complex institutions. It was thought that among professional schools, law schools probably offered the best opportunity for good costing work. Dental schools and basic science medicine also seemed to offer some possibilities, but clinical medicine was judged to be too complex to study profitably.

The discussion of areas or issues that needed evaluative investigation began with management flexibility. Efforts thus far were characterized as being mostly descriptive analyses of current practice, with little attention being paid to the effects of changes in flexibility. Similarly, it was noted that

analysts have looked at and categorized various sorts of budget forms and budget processes, but have not done enough to assess the implications of the differences found--for instance, as they might relate to the bottom line for state support, or the bottom line in terms of what happens to the instructional process.

The effects of retrenchment, or as one participant put it, the effects of the reallocation that go on under the cloak of retrenchment, were seen as another important area for research. Specific issues mentioned in this context included the following: state-level reactions to retrenchment; the effects of the decline in real faculty salaries; the effects of retrenchment on renewal of academic talent; the extent and impact of the shift of funds on the campus between faculty salaries and other types of expenditures; and the financial impact of early retirement.

Besides the evaluative research, the participants discussed several topics wherein the required research and investigation would be more forward looking. The topics receiving the most attention were the following: likely trends in state expenditures for health care, welfare, pensions, and so on--reflecting the obvious fact that higher education must compete for state support with a host of other important causes; ways of investing money in education that yield a high return for the state in terms of economic development; and strategies for capital formation in the public sector.

The implications of potential changes in accounting practices were also seen as worthy topics for investigation. Changes now being considered in fund accounting procedures, possible recognition of depreciation, and a growing interest in the way uncompensated absences are recorded in financial statements, all have the potential to change fundamentally the way in which

higher education institutions record their financial operations and their financial condition. More than just record keeping is at stake. For instance, by formally acknowledging the depreciation of its physical assets in higher education, a state might find itself in a deficit situation at odds with its constitution. A number of other issues were touched on. They appear in the list of potential research topics shown in the appendix.

Appendix

Research on the Financing of Public Higher Education: Some Potential Topics

In preparation for the session, participants were asked to indicate the finance-related issues that ought to be investigated over the next several years. They responded as follows:

- Value-added incentives.
- The best funding methods to promote innovation and responsiveness to change in the larger society.
- Ways in which system organization can inhibit or facilitate the accomplishment of public policy goals in higher education.
- The discretion given campuses in the use of non-state funds.
- Incentives and incentive funding at both the individual level and the institutional level.
- Incentives for increasing institutional flexibility.
- Ways that funding policies can reinforce the revival of higher education and undermine the conservative tendencies that are so strong during a period of retrenchment.
- Funding quality and the assurance of quality.
- Use of outcome measures in post-performance review.
- Enrollment policies.
- Effects of enrollment changes.

- Funding formulas in an environment of declining enrollments.
- Average versus marginal costs, etc., and applications in budget formulas.
- The use of costing concepts in the funding process.
- How the state should provide for future obligations (deferred maintenance, equipment replacement, retirement, etc.).
- Depreciation of the educational infrastructure and how it should be built into budgets.
- Long-term policy implications of short-run financial decisions.
- Problems of closing underutilized facilities, e.g., alternative uses of facilities, methods of estimating savings.
- Ways in which the state could help institutions improve their personnel systems.
- Optimum length of the budget cycle for different kinds of expenditures.
- Methods of analyzing, informing, and supporting a state's macro decisions about the size of higher education funding and the methods of delivering it.
- The priority given higher education by the states--particularly during economic downturns.
- Comparative state support of higher education.

- Comparative higher education finance (with strict quality control on input data).
- Renewed efforts at developing better information exchange procedures.
- New approaches to depicting the needs of higher education.
- Trends and reasons for states increasing and decreasing institutional flexibility.
- The budgeting processes of campus and multi-campus systems and how these processes interface with the related state processes.
- Mixed models of public funding, private funding, and tuition funding, and their impact on both the public and private sectors.
- Increasing role of non-governmental dollars in public higher education.
- Effects of revenue changes.
- State revenue projections as they bear on higher education institutions.
- Effects (positive and negative) of long-term retrenchment.
- Institutional and state-level approaches for effectively managing the conflict and turmoil associated with retrenchment.
- How financial adversity can be turned to our advantage.
- Impact of mid-year budget adjustments.

- The extent to which higher education is able to compete with the private sector for professional talent, both at the entry level and in mid-career.

- Effects of student assistance on attendance patterns; the point of diminishing returns in terms of access and choice.

- Relationships among tuition and fees, student aid, and access/participation in higher education.

- Tuition pricing elasticities.

- Use of differential tuition rates.

- Reassessment of state planning activities.

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